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Lynne Pepall, PhD
Peter Antonioni
Manzur Rashid, PhD



Microeconomics

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**by Lynne Pepall, PhD, Peter Antonioni,
and Manzur Rashid, PhD**

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Microeconomics For Dummies®, U.S. Edition

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Introduction

Economics is about many things. On one level, it's concerned with humanity's struggle to cope with scarcity and how this leads individuals to make choices about the things that should have priority. On another level, it's about the human quest for happiness in an uncertain world, and the ways people have found to achieve it. On yet another level, economics is about how societies organize themselves from the bottom up, using markets as a way of trading with each other. However you look at it, economics is a huge subject.

Microeconomics looks at economics on the smallest scales — at the level of individual consumers and firms — and builds up to an understanding of how markets and industries work. Microeconomics has become a very big subject too, taking in everything from what kinds of decisions people make to the right way to measure and analyze those decisions. It's the part of economics that's like looking through a microscope as small creatures go about their business.

So that's what microeconomists do. The microscope, though, is a bit unusual. It's not made of glass, but of tools, called models, which are ways of representing the world that you can use to examine real life. They're not real life itself. Making a model of real life that was accurate in every way would be akin to the perfect global map in a Lewis Carroll story that ended up being the size of the entire world. Instead, models are guides to help you when you need to know what's going on in a particular situation.

Maybe you're thinking about starting a business. Microeconomics can help with everything from working out how much to pay staff to knowing which markets to avoid. Maybe you're wondering whether a company is a good place to invest in. Microeconomics can help you figure out whether the company is profitable in the market it's competing in. Maybe you want to figure out how to get the best price for something you want to sell. Microeconomics can help you work out how to auction it off to get the highest price. In all these places in life, microeconomics can help you figure out an answer.

About This Book

This book takes you through the most common tools and models that microeconomists use to make sense of a complicated world. The aspects that we cover include the following:

- ✔ What utility is and why microeconomists assume people maximize it.
- ✔ What a firm is and what it does.
- ✔ What happens when firms and consumers interact in a market.
- ✔ Why competition is usually better than monopoly.
- ✔ How to understand competition among firms, and how the outcome depends on the way firms compete.
- ✔ What happens when some people in a marketplace know more about the trade than others.
- ✔ How you can generalize — to some extent — the results from one market to all markets, and how that informs decisions you may make about distributing resources.
- ✔ How you can figure out which options a firm will choose to take when it has competitors who also want to do the best for themselves.
- ✔ How and why markets fail, and some of the things you can do about it.

Foolish Assumptions

Economists often make assumptions — they have to make models when they don't know exactly how things work in a specific case. Sometimes those assumptions can be foolish, something we learned from Samuel L. Jackson in *The Long Kiss Goodnight* and Eric Bogosian in *Under Siege 2: Dark Territory*. In writing this book, we make some foolish assumptions about you:

- ✔ You're interested in putting together a picture of why the world is as it is.
- ✔ You're smart and you don't just accept a glib and easy answer — like us.
- ✔ You're interested in learning more about economics and are looking for a good place to start. Maybe you're considering studying more at school or university, or adding to your impressive portfolio of professional skills.

- ✔ You're a citizen bemused by discussion of business news and want to know how anyone arrives at the opinions they do.
- ✔ You're not frightened about using the odd number or bit of simple math — we try to do nearly everything in words, but economics deals with money, and money comes in numbers and that's not something we can do anything about.
- ✔ You're sure, from the book's branding and its fun, accessible style and easy-to-read layout, that you'll gain more utility from reading it than from other activities, such as archaeology or knitting.

Some of or all these assumptions may turn out to be true. Whichever are, we hope that this book jibes with your desire to understand the wild world of microeconomics.

Icons Used in This book

To help you get the most out of this book, we use a few icons to flag particularly noteworthy items.



This icon highlights handy hints for smoothing out your microeconomics journey.



Some of the ideas in this book are so important for understanding microeconomics that they need special emphasis — often because they're easy to get wrong. When you see this icon, you know that the associated text is something economists really want you to understand.



The world is full of pitfalls for the unwary. Here we stress areas for which you need to watch out.



Economists use technical terms to speak to each other — it's just shorthand usually, so that no one needs to go through pages and pages of the same things. When you see this icon, you know that you're being let into the clubhouse — economics is an inclusive science — and picking up a piece of lingo that economists use to cut long stories short.



Theories are great, but ultimately economics is about the real world, and the best way to see what microeconomics can do is to see it in action. This icon tells you that you're getting something from real-life practice to help you get the idea.

Beyond the Book

But wait! There's more! A handy e-cheat sheet (at www.dummies.com/cheatsheet/microeconomics) to keep important info handy at all times.

Where to Go from Here

The great thing about a reference book like this one is that you don't have to worry about spoilers and can dive straight in anywhere you choose. If you've just seen the film *Dr. Strangelove* and you want to jump further into the wacky world of game theory, be our guest (check out Part V). If you want to figure out why someone wants to break up a monopoly, move straight to Chapter 13 without passing Go. To see how economists think about pollution, check out Chapter 14. Feel free to peruse the table of contents and index to look up whatever may interest you and flip right to that page.

Economists are fine with choice — trust us, we make a living *because* people are able to choose. A common choice with books is to start at the beginning. That way you get to see how the whole subject unfolds, from simple ideas to more complex levels.

However you choose to use it, we hope you enjoy — and get lots of utility from — this book. With that, we wish you good luck and happy reading!

Part I

Getting Started with Microeconomics

getting started
with

Microeconomics
Microeconomics



For Dummies can help you get started with lots of subjects. Visit www.dummies.com to learn more.

In this part . . .

- ✓ See how microeconomics looks at firms and individuals.
- ✓ Discover how microeconomics builds on people's choices.
- ✓ Understand how consumers choose.
- ✓ Look at the ways firms make their decisions.

Chapter 1

Discovering Why Microeconomics Is a Big Deal

In This Chapter

- ▶ Introducing the areas that are the focus of microeconomics
 - ▶ Understanding the key roles of rational decision-making, competition, and cooperation
 - ▶ Seeing that markets don't always work
-

As we're sure you know, *micro* as a prefix often indicates something very small, such as a microchip or a microcosm. *Micro* can also mean something that isn't small itself but that is used to examine small things, such as a microscope.

Microeconomics is the area of economics that studies the decisions of individual consumers and producers and how they come together to make markets. It explores how people decide to do what they do and what happens when interests conflict. It also considers how people can improve markets through their actions, the effects of laws, and other outside interventions. So despite the name, microeconomics is in fact a huge subject.

Traditionally, people contrasted microeconomics with *macroeconomics* — the study of national economies and weighty topics such as growth, unemployment, inflation, national debt, and investments. But over the years, the scope of microeconomics has grown; today economists analyze topics in macroeconomics using microeconomic tools.



Microeconomists employ those tools to look at things that form from the bottom up, because markets build on the actions of individual companies and consumers. This approach involves starting with an account of how companies and consumers make decisions and building on that to investigate more complex things that “emerge” from those decisions — such as how a market is structured.

In general, microeconomics works by building models of these situations. *Models* are mathematical — or graphical — pictures of how the world works given some basic assumptions. Models aren't reality; they're a description of something that resembles reality. Like an architect's model of a house, models don't have to stand up to reality; they just have to provide a feeling for what the real world looks like. Microeconomists also test models against real data to see how well the models work — the answer is often *variably*.

This chapter introduces you to microeconomics and its core areas of interest, and we touch on the fact that markets don't always work.

Peering into the Economics of Smaller Units

Microeconomics is fundamentally about what happens when individuals and companies make decisions. The idea is to understand how those decisions are made and explore their consequences.

What happens, for example, when prices of houses go up? Well, on the one hand, people are likely to buy fewer or smaller houses. On the other hand, developers may want to build more houses so that they can get more revenue. The result could be a lot of unsold houses! Then there will be pressure to get rid of those stocks of unsold houses, and that leads to lower prices.



When does that process stop? At the limit, the only logical place to stop cutting the price is when exactly as much is sold as is available to sell. This point is called an *equilibrium* in the housing market — a place where supply and demand are equal. Chapter 9 discusses equilibria more fully.



When people talk about *market forces*, they're talking about the outcome of all these decisions taken together. No vast impersonal power called "market forces" exists, just a lot of smaller entities — consumers and companies — making a lot of simple decisions based on signals that come from prices. That's really all market forces means.

The way markets work seems so impersonal because every one of the smallest units — small companies and individuals — makes up just a tiny fraction of all the decisions taken. Even the biggest corporations or most powerful governments have limitations on their ability to influence the world. Microeconomics also looks at the exception to the rule when a decision-maker — a buyer or seller — is not so small and *can* influence market forces.



All these small decision-makers do the best they can, given that ultimately they're acting with imperfect knowledge of a complicated world. People and companies can't know *exactly* how much they'll be earning next year or exactly how much they'll sell. They just look for ways of making decisions that give them the best chance of doing the best they can — which is about all anyone can ask for in an uncertain world.

Making Decisions, Decisions, and More Decisions!



One word that's central to microeconomics is *decision*. Microeconomics is ultimately about making decisions: whether to buy a house, how much ice cream to make, what price to sell a bicycle at, or whether to offer a product to this or that market, and so on.

This is one reason why economists center their models on choice. After all, when you don't have options to choose from, you can't make a decision. Deciding to make something or to buy something is the starting point for microeconomics.



To a microeconomist, decisions aren't right or wrong. Instead, they're one of the following:

- ✓ **Optimal:** Getting the best of what you want, given what's available.
- ✓ **Sub-optimal:** Getting less than the best.

Of course, a model of decisions needs two sides:

- ✓ **Consumers** base their decisions on the value they get from choosing one option as opposed to another.
- ✓ **Companies** base their decisions on a measure of monetary benefit — revenue against costs.

This book presents a few ways that microeconomists look at these decisions. Chapters 2–8 use a framework for making the best decision given some kind of constraint — budget, time, or whatever else constrains you — to show you how microeconomists look at individuals and companies separately. In Chapters 9–15, the famous supply and demand model shows you how different types of markets lead to different results. And Chapters 16–19 introduce you to *game theory*, which looks at how individuals or companies (or even other entities, such as governments) strategically interact with each other.

Addressing how individuals and companies make decisions

Economists look at decisions in a slightly different way from how you might expect. They don't have a model of all the things that you as a consumer would use to inform your decisions. They don't know, for example, who you are, or more precisely what all your values are. They make no assumptions about gender, ethnicity, sexuality, or anything else. They just know that you need to make choices and they explore how you may do so.



Starting simply

Economists make the least possible number of assumptions about the decision-making process and ask what you'd do if you cared about getting the best possible outcome. Here are the two basic assumptions:

- ✓ **The consumer is utility-maximizing:** She seeks to maximize her *utility*, which is the value to the consumer of her choice (see Chapters 2 and 4 for more details).
- ✓ **The company is profit-maximizing:** It wants to maximize its profit — see Chapters 3 and 8.



These choices don't necessarily involve selfishness. A utility-maximizing consumer can get benefit from helping other people, and a profit-maximizing company may want to redistribute surplus profits to charitable causes.

Growing more complex

To begin with, these models are quite simple. If Bob has \$10 in his pocket and he wants to decide between having a burrito or a pizza, he'll get the meal that gives him the most value or utility, given that it costs less than \$10. Simple!

But later on, the models start to incorporate all kinds of other factors, such as budget constraints (discussed in Chapter 5): If Bob's income goes up, will he buy more or less pizza? Or what about the utility of other people? If Bob's friends won't eat pizza with him (perhaps he chews with his mouth open), he may get less utility from the pizza. Eventually, even with simple assumptions, models can end up incorporating some pretty complicated reasoning.

When you look at this example from the perspective of the pizza restaurant, things also start off simple: The restaurant just wants to make as much profit as possible, working to reduce its costs to do so. But what if you factor in competitors? What if the shareholders of the pizza company — the company has grown, adding layer on tasty layer — have different interests than the

managers? What if the managers don't just want to get costs down, but want to keep competitors out? Again, the key is to start from the fewest justifiable assumptions and then build up as you get more familiar with models.



Even at the simplest level, models tell you plenty about reality. They can give you an account of how people and companies react to prices, and how this reaction changes as industries get more competitive or as companies get bigger.

Seeing how decisions come together to make markets

Markets are places, real or virtual, where consumers and producers come together to trade. In theory, the trades make both sides better off, though not necessarily to the same extent.



Markets coordinate people's desire for "stuff" with producers' ability to make "stuff," but importantly with no one being in charge of the process. The only thing you need is that both sides respond to a price signal. That's it.

Microeconomists say that markets are *equilibrium-seeking*, which means that trading in a market ultimately leads to a point where as much is supplied as consumers demand (and no more or less). The concept of equilibrium is much used in microeconomics, especially in the supply and demand model that we introduce in Chapter 9. This model looks at *partial equilibrium* or an equilibrium in one given market (for example, the market for canned tuna, or the market for books). We also want to understand how a partial equilibrium is related to the following:

- ✓ **Nash equilibrium:** A point where two people or entities are competing for something and arrive separately at a point where no one has an incentive to change their behavior. (Chapters 16–19 explore this situation.)
- ✓ **General equilibrium:** An equilibrium state exists across a whole economy given certain conditions. This is used for the analysis of welfare, and Chapter 12 talks more about it.

Of course, reality can get very complicated, and there are situations where someone — often government, but sometimes private monopolists or property owners — wants to control the price, which is often not desirable. Take rent control, for example. Introduce too low a maximum rent, and more people will want to rent than there are people who are willing to put their

house up for rent. As a result, setting a rent control at a very low level just creates homelessness — more people trying to rent, but landlords withdrawing their properties from the market because the price is too low for them to bother.

What if you set the rents too high? Well, if the maximum rent is above the equilibrium in the market, landlords are more willing to rent at that price and so more enter the market. But fewer renters are willing to rent at that price, so the result is an excess supply of rentable properties. As a result, some landlords drop out — those that need the highest level of rent to make a profit — and the price falls until it reaches market equilibrium.



Controlling prices can have other consequences, too. The price isn't just an absolute number — say, a price of \$5 — it's also a *relative* measure. For example, a car costs far more in terms of other things you can do with your money than a sofa does. Our model of consumer behavior eventually tells you that the relative price of goods encapsulates what consumers value. When you affect the relative price, you affect choices *everywhere*. That's one reason why economists prefer almost any intervention to one that affects relative prices.

Markets are themselves complex things in reality and vary widely from type to type. For example, financial markets are different from labor markets in their scope, participants, and trading outcomes. Microeconomists look at all these types of markets, starting with the simplest model, and then try to incorporate distinctive differences in these markets into the models.



The great economist Alfred Marshall was the first to make a key point, though: A big difference exists between the practical results of *markets* in reality and the simulation that economists use, which he called *The Market*. When you encounter a type of market you don't understand, starting to analyze it using the simulation is a good starting point. If you know more about the market, you will see the limitations of a simple simulation.

Understanding the Problems of Competition and Cooperation

The situation of many companies following their own interests leads to competition (we discuss perfect competition, which consumers usually love, in Chapter 10, and imperfect competition in Chapter 11). In almost all circumstances, competition is a pretty good thing, because it can lead to lower costs or more innovation. For example, if only one store operates in your area, it may be able to get away with selling milk for \$5 a gallon. But if other

stores get in on the act, the competition leads to the price falling and stores trying to keep their costs low.



Businesses typically face a competitive environment, but inside the business people cooperate and work together to achieve common goals. Microeconomics studies cooperation as often as it studies competition. The desire is to understand what type of circumstances lead people to choose to cooperate or compete and what are the pitfalls of competition and cooperation.



Even businesses that are competitors in one area sometimes form alliances in others — Apple’s relationship with Motorola in the early 2000s being just one example.

Microeconomists are often accused of overselling the benefits of competition, but they also point out that cooperation can be perilous too. When a group of companies with large shares of a relevant market work together, the result is often harmful to the public, as Adam Smith pointed out. Working together in that way is illegal, not surprisingly. Similarly, a trade union where a lot of people work together to get the best bargain with their industry can have negative effects on anyone not a member of that union. Microeconomists go on to investigate all these possibilities.

Realizing why authorities regulate competition

At some point, no matter where they operate in the world, businesses have to deal with the legal institutions that govern the region where they operate. In general, a lot of basic rules restricting how business is conducted underpin every legal market, from ensuring that products are what businesses say they are to not allowing companies to exploit market dominance. But if a basic tenet of microeconomics is that trades and markets emerge with no one in charge, why do we need such governance?

Because markets in reality are far from perfect. Sometimes market trades impose costs, such as environmental costs, upon people who aren’t involved in that particular market. Sometimes restricting trade or conduct in a given market leads to better behavior. But perhaps the most interesting reason for regulation is because of what happens when a competitor gets too successful. When that happens, the company makes larger profits, which is good for shareholders. But suppose market conditions are such that no company can set up as a rival — maybe the costs involved in being in that market are too high, or the successful competitor holds the entire supply of a key resource.



The idea is that you don't want a company to exploit its advantage in a way that leads to too many losses for everyone else. At this point, competition law can step in and place restrictions on what a company can and can't do (see the next section), because the costs of runaway success can be very large indeed.

Considering antitrust law



Antitrust law is at the very top of things that a society can do to make sure that markets don't hurt the public good. The purpose is to ensure that if a market isn't competitive, at least the costs can be minimized. Antitrust law is the last line of defense against the worst kinds of behavior, preventing the biggest companies from prejudicing competition.

The idea is that competition is good, so stopping the biggest companies from subverting competition requires constant vigilance. In practice, it means that part of the legal system switches from treating everyone equally to treating those companies with the biggest market shares differently from smaller ones.



Many rules are in place to stop large companies from subverting competition:

- ✓ **Predatory pricing** makes it illegal for a company to drop its prices below cost to deter or drive out potential rivals.
- ✓ **Merger rules** prevent a large company from buying out its competitors and ensure that competition is achieved where possible.
- ✓ **Behavioral remedies** stop the largest competitor from owning a key resource. For instance, if you own a network, you aren't allowed to offer your own content providers preferential prices to access the network.

In all these cases, companies are treated differently because everyone recognizes that if competition fails, everyone loses out in the long run — ultimately getting poorer quality goods at higher prices.



Microeconomists examine all these cases with models that compare competitive outcomes to those achieved by noncompetitive organizations. In most situations, the intuition microeconomists form is that competition is good. But not always. In some cases, competitive markets just don't produce a good, and in others the diversity of products isn't as good in a competitive market, and so unlike many political partisans on the right and left, economists — as a whole — aren't ideologues about this idea.

Investigating Why Markets Can Fail

If you look around the world, you find almost no examples of countries where absolutely everything gets produced through markets alone. Almost everywhere, markets co-exist with other systems: the government, philanthropy, sometimes even the “command and control” structure of a military.



The ultimate reason for this situation is that markets, like anything else, sometimes fail. For example, markets may fail where monopolies exist (see Chapter 13) or where adverse selection problems (Chapter 15) can result in people who need health insurance not getting it. Or where you sell your land to a company that builds a polluting factory, making you and the company happier — but certainly not all the residents living around you, who have to put up with the factory belching fumes (see Chapter 14).

Economists tend to take a practical attitude to markets, perhaps more so than the general public suspects. Economists certainly don’t assume that markets can inevitably produce everything that everyone wants with no drawbacks. They believe that in some cases market-based prices would help improve decision-making, and that choice is valuable in and of itself. But that doesn’t mean economists want to introduce markets in absolutely everything.



Most economists believe that markets sometimes need a helping hand, especially in two situations: when they don’t produce what people want, and when they cost too much. This is because markets have trouble pricing goods when all the costs of making those goods are up front and unrelated to consumption of those goods. You can read more about these situations, along with the instance of markets producing what people don’t want, in Chapter 14.

